

FINAL Environmental Assessment Checklist

Project Name: Greyson Creek II Timber Sale

Proposed Implementation Date: June 2022

Proponent: Helena Unit, Central Land Office, Montana DNRC

County: Broadwater

Type and Purpose of Action

Description of Proposed Action:

This document is an Amended Environmental Assessment Checklist for the Greyson Creek II Timber Sale. In the following document, text that is highlighted in grey depicts amendments to the original Environmental Assessment Checklist, whereas text that is stricken through with a line depicts retractions from the original Environmental Assessment Checklist.

The Helena Unit of the Montana Department of Natural Resources and Conservation (DNRC) is proposing the Greyson Creek II Timber Sale. The project is located 14 miles east of Townsend, MT (refer to Attachments Sale Map A-1, Haul Route Map A-2, Vicinity Map A-3) and includes the following sections:

Beneficiary	Legal Description	Total Acres	Treated Acres
Common Schools	T6N R4E Section 16	640	153
Public Buildings			
MSU 2 nd Grant			
MSU Morrill			
Eastern College-MSU/Western College-U of M			
Montana Tech			
University of Montana			
School for the Deaf and Blind			
Pine Hills School			
Veterans Home			
Public Land Trust			
Acquired Land			

Objectives of the project include:

- Establish regeneration of the desired species, Douglas-fir.
- Contribute to the DNRC and Central Land Office's annual targets of timber-harvest volumes. DNRC is required by state law (77-5-221 through 223 MCA) to annually harvest approximately 60 million board feet (MMbf)
- Apply Best Management Practices (BMPs) or meet design criteria that are necessary to promote long-term water quality during logging and road improvement operations.

- Reduce the risk and severity of wildland fire in stands near private property by reducing fuel loading and stand density through silvicultural treatments
- Select genetically superior individual trees to encourage regeneration
- Encourage aspen restoration around identified colonies by removing conifers.

Proposed activities include:

Action	Quantity
Proposed Harvest Activities	# Acres
Clearcut	
Seed Tree	135
Shelterwood	
Selection	
Commercial Thinning	
Salvage	
Total Treatment Acres	135
Proposed Forest Improvement Treatment	# Acres
Pre-commercial Thinning	18
Planting	
Proposed Road Activities	# Miles
New permanent road construction	.2
New temporary road construction	.5
Road maintenance	26
Road reconstruction	
Road abandoned	
Road reclaimed	.5
Other Activities	
Herbicide Application	135
Prescribed fire	40

Duration of Activities:	*7
Implementation Period:	7

* Under the proposed action road construction and logging is expected to take up to 2 years and pre-commercial thinning would occur during one operating season. Total project duration including, burning, reclamation, regeneration surveys and weed control could require up to 7 years.

The lands involved in this proposed project are held in trust by the State of Montana. (Enabling Act of February 22, 1889; 1972 Montana Constitution, Article X, Section 11). The Board of Land Commissioners and the DNRC are required by law to administer these trust lands to produce the largest measure of reasonable and legitimate return over the long run for the beneficiary institutions (Section 77-1-202, MCA).

The DNRC would manage lands involved in this project in accordance with:

- The State Forest Land Management Plan (DNRC 1996),
- Administrative Rules for Forest Management (ARM 36.11.401 through 471),
- and all other applicable state and federal laws.

Project Development

SCOPING:

- DATE:
 - 11/23/2020 – 12/23/2020
- PUBLIC SCOPED:
 - The scoping notice was posted on the DNRC Website: <http://dnrc.mt.gov/public-interest/public-notice>
 - Letters and e-mails were sent to 35 adjacent landowners and the statewide scoping list
- AGENCIES SCOPED:
 - Montana Department of Fish Wildlife and Parks
 - All Tribes within the boundaries of Montana
 - Internal DNRC staff
- COMMENTS RECEIVED:
 - A total of 4 individuals commented.
 - MT FWP expressed concerns over the potential loss of timber cover due to the project and recommended implementing findings from the Montana Cooperative elk-logging study.

DNRC Response: The DNRC will apply Montana Administrative Rules for Forest Management during implementation of this project, which can be found on the Montana DNRC website (<http://dnrc.mt.gov/divisions/trust/forest-management/forest-management-plan>). For further detail, see the Wildlife Mitigation Section.

- Northern Cheyenne THPO requested more information such as a Class I or Class III report.

DNRC Response: The DNRC has conducted a Class I inventory entailing inspection of project maps, DNRC's sites/site leads database, land use records, General Land Office Survey Plats, and control cards and thus, will not complete a Class III inventory of the project area. The Class I search revealed that no cultural or paleontological resources have been identified in the area of potential effects (APE). Because the APE on state land has previously been harvested for timber, the Holocene age soils are thin and rocky, and the local geology is not likely to produce caves, rock shelters, or sources of tool stone, no additional archaeological investigative work will be conducted in response to this proposed development. However, if previously unknown cultural or paleontological materials are identified during project-related activities, all work will cease until a professional assessment of such resources can be made.

- The Grazing Lessee of the section expressed concerns about the timing of the harvest and the potential impact to their grazing operation, the ingress and egress road, potential damage and dust to Greyson Creek Road, weed management and protecting and potentially enhancing the riparian area.

DNRC Response: DNRC will work with Lessee to ensure grazing activities can be continued or deferred, if needed. Additionally, the timber sale contract will require the

purchaser to haul logs when ground conditions are dry or frozen, repair any road damage and treat Greyson Creek Road with dust abatement if hauling of logs is done during dry, summer conditions. The purchaser will be required to implement Montana Forestry BMPs and the rules outlined in the State Forest Land Management Plan in relation to water quality and riparian areas. See Water Quality Section for further detail. DNRC will commit to weed management on the section for a period of 3 years, which will include herbicide treatments and grass seeding with the goal of establishing desired species and preventing weed expansion to provide forage for livestock and wildlife.

- A near-by property owner expressed concerns about the cumulative impacts associated with tree cover reduction from the proposed harvest, previously logged private and Forest Service lands, the burned area from a wildfire in 2000, and the Northwestern Energy high voltage power line. This individual also expressed concerns over the 1.2 MMBF harvest volume, noxious weed expansion, water quality during runoff and its effects on the aquatic ecosystem, the safety of logging traffic on the haul route relative to residents and compensation of residents for the use road as the proposed haul route is not a county road. Additionally, the individual expressed concern over how the project will impact their wildlife/bison vacation business, in terms of noise and visual aesthetic in the area, as well as impact on habitat for elk, mule deer, dusky grouse and great grey owl. Lastly, the individual expressed concern over unmitigated impacts of the project that will be an unaccounted cost to the residents and recreationalists of the area and recommended focusing on smaller trees to reduce fire risk.

DNRC Response: Comments related to the cumulative effects of logging, associated activities and the harvest volume of the proposed harvest will be addressed and clarified in the Vegetation Section of the analysis. DNRC will commit to weed management on the section for a period of 3 years, which will include herbicide treatments and grass seeding with the goal of establishing desired species and preventing weed expansion as well as to provide forage for livestock and wildlife. The purchaser will be required to implement Best Management Practices (BMPs) for forestry and the Administrative Rules for Forest Management ([36.11.301 thru 36.11.313 and 36.11.401 thru 36.11.471](#)).

Concerns related to wildlife habitat and fuel reduction will be addressed and clarified in the Wildlife and Vegetation Sections of the analysis. Although portions of this comment related to concerns about the lessee's vacation business are outside the scope of this analysis and removed from consideration. Aesthetic, viewshed, noise and additional human-related impacts is available in the Impacts on Human Population Section of the analysis.

The Amended Action Alternative proposes Sulphur Bar road as the new haul route, avoiding the road system the commenter raised safety concerns over. The purchaser of this timber sale contract will be restricted to hauling only on dry or frozen ground conditions. If damage to the road system occurs, the purchaser will be required repair damage.

DRAFT AMENDED ENVIRONMENTAL ASSESSMENT:

- **DATE:**
 - The draft Amended EA was published on the DNRC website (<http://dnrc.mt.gov/public-interest/environmental-docs>) on February 8th, 2022.
- **PUBLIC COMMENT:**
 - All individuals who commented during the initial scoping period were notified of the 14-day public comment period, from February 8th to 22nd, 2022, on the draft Amended EA.
 - A total of three comments were received from two individuals. Two separate comments were received from a near-by property owner, who had previously commented during and following the initial scoping period. One comment was received from a logging industry representative.
 - All comments received during the public comment period and DNRC's response to these comments are presented in Attachment C within this document.

DNRC Interdisciplinary Team:

Wildlife Biologist: Ross Baty
Fisheries Biologist: Mike Anderson
Archeologist: Patrick Rennie
Hydrologist: Jeff Schmalenberg
Silviculturist: Tim Spoelma
Forester/Lead: Devin Healy

Internal and external issues, as well as resource concerns, were considered by the Interdisciplinary Team (ID) and project Decisionmaker (Helena Unit Manager). These issues and concerns were incorporated into project planning and design phases of the project and would be implemented in associated actions and contracts. The ID Team developed an action alternative within the framework of the State Forest Land Management Plan and the Administrative Rules for Forest Management based on issues and concerns raised by both internal and external scoping comments.

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED: *(Conservation Easements, Army Corps of Engineers, road use permits, etc.)*

- **Montana Department of Environmental Quality (DEQ)-** DNRC is classified as a major open burner by DEQ and is issued a permit from DEQ to conduct burning activities on state lands managed by DNRC. As a major open-burning permit holder, DNRC agrees to comply with the limitations and conditions of the permit. A Short-term Exemption from Montana's Surface Water Quality Standards (318 Authorization) may also be required from DEQ if activities such as replacing a bridge on a stream would introduce sediment above natural levels into streams.
- **Montana/Idaho Airshed Group-** The DNRC is a member of the Montana/Idaho Airshed Group which was formed to minimize or prevent smoke impacts while using fire to accomplish land management objectives and/or fuel hazard reduction (Montana/Idaho Airshed Group 2006). ~~The Group determines the delineation of airsheds and impact zones throughout Idaho and Montana. Airsheds describe those geographical areas that have similar atmospheric conditions, while impact zones describe any area in Montana~~

~~or Idaho that the Group deems smoke sensitive and/or having an existing air quality problem (Montana/Idaho Airshed Group 2006).~~ As a member of the Airshed Group, DNRC agrees to burn only on days approved for good smoke dispersion as determined by the Smoke Management Unit.

- **Montana Department of Fish, Wildlife and Parks (DFWP)-** A Stream Protection Act Permit (124 Permit) is required from DFWP for activities that may affect the natural shape and form of a stream's channel, banks, or tributaries. Such activities include:
 - Stream Crossing and Culvert installation
- **USDA Forest Service Road Use Permit-** A Forest Service Road use permit has been acquired for this timber sale to use the Sulphur Bar Road and other Forest Service System roads. This permit restricts hauling to occur between June 15-October 15 annually and terminate September 30th 2025.
- **Private Landowner Road Use Agreements-** 2 private landowner road use agreements have been acquired to facilitate log hauling and equipment transportation. These permits prevent any use by DNRC on these roads during big game rifle season.

ALTERNATIVES CONSIDERED:

No-Action Alternative: Deferred harvest: Logging and related activities would not occur in the near future, however, grazing and outfitting under existing leases would continue. Forest succession would continue to be mainly influenced by the occurrence of natural events such as insect and disease outbreaks, wind throw, or wildland fire. No road maintenance or road improvements would occur.

Amended Action Alternative: DNRC would harvest approximately 828 thousand board feet (MBF) of primarily Douglas-fir trees utilizing seed tree harvest systems. Forest fire fuels would be reduced substantially within the harvest units, providing contiguous fuel breaks on the portions of state land being treated.

Approximately 5 26 miles of roads would be maintained along the amended Sulphur Bar road haul route (See Attachment A-2). Maintenance activities would occur on private property as well as state trust land. Maintenance activities, such as surface blading, drainage installation and other routine maintenance to road surface, would ensure Montana BMPs for forestry are applied effectively. Specifically, road maintenance work is required along several short stretches of the haul road on State land in very close proximity to Greyson Creek to ensure logging activities do not result in sediment delivery into Greyson Creek.

Up to 0.7 miles of new roads would be constructed. Of which, 0.5 miles would be temporary and reclaimed upon project completion and 0.2 miles would remain permanent but closed to public motorized use.

Noxious weeds would be managed by the DNRC for a period of three years concurrent with logging activities. Pile burning will occur to remove slash after harvest operations are complete. Prescribed burning may take place to help with site preparation for regeneration. Grazing under existing lease on section 16 would continue, but DNRC would work with the lessee to limit conflict between livestock grazing and timber harvest activities. All forest improvement work and prescribed burning would be dependent on funding.

Impacts on the Physical Environment

Evaluation of the impacts on the No-Action and Action Alternatives including **direct, secondary, and cumulative** impacts on the Physical Environment.

VEGETATION:

Vegetation Existing Conditions:

The existing species mix in the proposed harvest units is **predominantly** Douglas-fir, **with some** ponderosa pine, lodgepole pine, and quaking aspen. The stands are primarily single storied with grass understory but there are areas with established Douglas-fir regeneration. The majority of forested stands are included in fuel model eight. State Listed Noxious weed species present in the area include spotted knapweed, Canada thistle, and hounds tongue. **Broadwater County additionally lists musk thistle as being a Noxious Weed.** Forested stands in this section are 120-130 years old and because the stands are less than 200 years old, they do not meet DNRC's criteria to be considered old growth. No plant species of concern are known to be in the harvest area based on a query of the Montana Natural Heritage database. Proposed harvest area is composed of single story mature, and multi-story Douglas-fir. Douglas-fir has been stagnated in the harvest area due to western spruce budworm and drought conditions. These stands are considered poor to medium saw timber stocking, with large variation through the project area.

Vegetation	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Noxious Weeds	x				x				x					
Rare Plants	x				x				x					
Forest Fuels	x				x				x					
Vegetative community	x				x				x					
Old Growth	x				x				x					
Action														
Noxious Weeds		x				x				x			Yes	1
Rare Plants	x				x				x				Yes	3
Forest Fuels		x				x				x			Yes	4
Vegetative community		x				x				x			No	2
Old Growth	x				x				x					

Comments:

1. Disturbed sites from equipment operation, timber removal and burning are receptive seed beds for noxious weeds.
2. The removal of approximately 828 MBF of timber and temporarily disturbing grasses and forbs present on site.

3. Although no species of concern were identified during initial field reconnaissance within any proposed harvest units, there is a possibility of finding non-wetland related species. If listed rare/sensitive plants are found during this project period, then harvesting operations would be diverted from the plants and further reviewed by DNRC and plant specialists.

4. Although the risk of wildfire would still exist post-harvest, treatments within proposed harvest units would assist in moderating fire intensity should a wildfire occur. Treatments applied in proposed harvest units are designed to reduce the vertical and horizontal continuity of fuel loadings. In the event of a fire, these treatments would increase success of fire suppression efforts by moderating fire intensity and creating defensible space near structures and critical infrastructure, powerlines.

Vegetation Mitigations:

- A minimum of one snag and one snag recruit per acre, of the largest diameter class, would be retained. Cull live trees and cull snags would be retained where possible given human safety considerations.
- Older, live, healthy trees would be retained in a clumped distribution where possible.
- All logging equipment would be power washed and inspected for soil and organic material prior to being brought on site to reduce the potential of new weed infestations.
- Pre-harvest and post-harvest herbicide applications would be made to manage noxious weeds in the sale area. All herbicide applications would follow label instructions. Treatments may continue for up to 3 years after pile burning is concluded depending on amount of noxious weed infestation.
- Disturbed sites (landings, slash piles, major skid trails) will be reseeded with site-adapted grass after the completion of each harvest unit.

SOIL DISTURBANCE AND PRODUCTIVITY:

Soil Disturbance and Productivity Existing Conditions: The sale area is located on moderate to steep slopes with underlying geologic structure composed of the Greyson formation. The Greyson formation is a quartz rich formation that typically has low base erosion rates. No especially unusual or unique geologic features in the proposed harvest area and hillslopes are stable.

The project area is within a semi-arid precipitation zone (18-24") though the probability for high intensity rain events is significant. Soils in the project area are composed of Lake Creek channery loams and Nielsen Channery loams. These soils have a loam texture with significant rock content. As a result, soil compaction, displacement and erosion hazard are low to moderate.

Low precipitation, short growing season, extreme seasonal temperatures, and shallow soils result in low soil and site productivity in the project area. Nutrient pools in the organic soil layer provide and support nutrient cycling functions and microbial habitat but can be affected by surface soil displacement.

No previously managed forest stands are planned for re-entry at this time. Past harvest units have fully regenerated and are well stocked.

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Montana Department of Natural Resources and Conservation

Soil Disturbance and Productivity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Physical Disturbance (Compaction and Displacement)	x				x				x					
Erosion	x				x				x					
Nutrient Cycling	x				x				x					
Slope Stability	x				x				x					
Soil Productivity	x				x				x					
Action														
Physical Disturbance (Compaction and Displacement)		x				x				x			Yes	1
Erosion		x				x				x			Yes	2
Nutrient Cycling		x				x				x			Yes	3
Slope Stability	x				x				x					
Soil Productivity		x				x				x			Yes	1

Comments:

1. Monitoring of DNRC timber harvest shows the level of total detrimental soil impacts in a harvest area averages 6.2% using cable harvest systems and 13.2% for traditional ground-based operations (DNRC 2011). Detrimental soil impacts are considered substantive when they exceed 20 percent of a harvest area (DNRC 1996). Soil productivity is expected to be maintained when soil function is maintained within 80% of a harvest unit.
2. Standard implementation of forest management BMPs to control erosion concurrent with harvest activities would mitigate any erosion concerns in the project area. Primary or highly impacted skid trails would be covered with slash and debris using water bars only as needed to provide adequate drainage.
3. Slash greater than 3" in diameter would be left at a rate of 10 tons per acre within the harvest units where feasible. Retain 1-2 large diameter (18-24") logs per acre to facilitate moisture retention, soil surface protection and creation of micro-climatic growing sites.

Soil Mitigations:

- Ground based equipment operations would be limited to slopes less than 45% with cable harvest systems employed on slopes greater than 45%.
- Limiting season of use to periods when soils are relatively dry (less than 20%), frozen or snow covered to minimize soil compaction and maintain drainage features.
- Minimizing ground scarification to the extent needed to meet silvicultural objectives.
- Forest Officer and Purchaser would agree to a general skidding plan prior to equipment operations and designate skid trails within complex areas.
- Road drainage would be improved on existing and reconstructed roads with new construction complying with Forest Management BMP's.

WATER QUALITY AND QUANTITY:

The project area is entirely within the Upper Missouri River watershed (Boone Run - HUC 100301010902). This 24.3 mi² watershed is at least 46% 36.8% forested and receives upwards of 18 inches of precipitation annually, with an average elevation of approximately 5,420 feet. Approximately 47% of the watershed burned in 2000 during the Maudlow fire. Much of the forested acres that burned on private lands in this fire were salvaged logged in the subsequent years after the fire. Water use for this watershed is classified in rule by DEQ as B-1. Waters classified B-1 are to be maintained suitable for drinking, culinary, and food processing purposes, after conventional treatment; bathing, swimming, and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

Greyson Creek is not listed on the impaired waters list on the 2020 303d list.

Water Quality and Quantity Existing Conditions:

Primary sediment delivery to Greyson Creek within the project area is from the forest road and livestock trails and bank trampling directly adjacent to Greyson Creek. Road BMPs will temporarily mitigate direct delivery during hauling operations so that water quality standards are met. One new, temporary road-stream bridge crossing is proposed. One existing unimproved fords would be improved as part of the proposed actions. Ford approaches would utilize rock armor to improve the shear strength on the road running surface at the approaches, to eliminate rutting and sediment delivery from tire wash during use. Road drainage at both sites would ensure road surface drainage is diverted through adequate filtration to protect water quality.

Cumulatively, numerous sediment sources upstream from the project area exist and include failed road stream crossing culverts, significant road density within the streamside management zone, inadequate road surface drainage, riparian livestock grazing, and channelization of ephemeral storm runoff created in the post-fire environment. All of these sources have contributed to moderate high levels of cumulative water quality impacts in the form of sedimentation.

Water Quality & Quantity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Water Quality			x				x					x		
Water Quantity	x				x				x					
Action														
Water Quality			x				x					x	Yes	1
Water Quantity	x				x				x					2

Comments:

- Due to the harvest systems utilized, location of harvest units relative to stream channels, magnitude of new road construction, implementation of Forest Management BMPs and the low precipitation within the project area, there is a low moderate risk of direct and secondary water quality impacts from the proposed actions. Considering these impacts in combination with existing cumulative effects, the proposed action will result in no

increased cumulative effects over those moderate high levels currently presenting in the watershed.

2. Forest stands are not likely to be a major influence on the hydrology and flow regimes of the streams draining the proposed timber sale area. Many of the trees in the proposed harvest units have been affected by spruce budworm or mountain pine beetle. The proposed harvest is not expected to substantially decrease the levels of canopy interception or evapotranspiration potential within these watersheds relative to the levels under the no action alternative. The levels of harvest proposed are also well below those cumulative levels associated with detrimental increases in water yield. Due to these factors, no direct, secondary or cumulative impacts to water quantity are anticipated under the proposed action.

Water Quality & Quantity Mitigations:

- Best Management Practices for Forestry would be implemented and monitored for effectiveness concurrent with all forest management activities.
- Implementation of Montana Administrative Rules for Forest Management and Streamside Management Zones.
- Ephemeral draw crossings would be kept to a minimum and skidding down topographic convergences (draw bottoms) would be prohibited.
- Major skid trails would be grass seeded, closed with slash and debris and/or barriers, and adequate drainage provided.

FISHERIES:

Fisheries Existing Conditions: The project area includes Greyson and South Fork Greyson creeks, both of which support populations of native Westslope cutthroat trout (*Oncorhynchus clarkii lewisi*) and non-native Rainbow (*Oncorhynchus mykiss*) and Eastern brook trout (*Salvelinus fontinalis*). Westslope cutthroat are currently limited to the headwaters of Greyson Creek and may use the lower reaches on DNRC ownership intermittently. Genetic analysis of Westslope cutthroat in the upper watershed indicates low level (<3%) introgression with Rainbow trout. Within the project area, three eight perennial stream crossings occur along the timber haul route which may affect fish passage and sediment delivery. All crossings are on private property. Instream spawning habitat has been affected by stream adjacent roads, livestock trailing, and streambank trampling along most portions of Greyson Creek on DNRC ownership, leading to increased levels of embeddedness in comparison to South Fork Greyson Creek. Direct sediment delivery was noted in multiple locations along livestock trails. Riparian areas along Greyson Creek have been impacted by the stream adjacent road and livestock grazing, resulting in loss of the majority of deciduous riparian vegetation and diminished instream large wood and substantial reductions in stream shade. Reduced stream shade due to loss of riparian vegetation is likely contributing to elevated stream temperatures in Greyson Creek in comparison with the historic thermal regime.

No-Action: No direct or indirect impacts would occur to affected fish species or affected fisheries resources beyond those described in Fisheries Existing Conditions. Cumulative effects (other related past and present factors; other future, related actions; and any impacts described in Fisheries Existing Conditions) would continue to occur.

Action Alternative (see Fisheries table below):

Fisheries	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Sediment			x				x					x		1
Flow Regimes	x				x				x					
Woody Debris	x							x				x		3
Stream Shading	x							x				x		3
Stream Temperature	x							x				x		3
Connectivity	x				x				x					
Populations	x				x							x		4
Action														
Sediment			x				x					x	Yes	1,2
Flow Regimes	x				x				x					
Woody Debris	x				x							x	No	3
Stream Shading	x				x							x	No	3
Stream Temperature	x				x							x	No	3
Connectivity	x				x				x					
Populations	x				x							x	No	4

Comments:

- The primary risks to fisheries resources would be sediment delivery from timber hauling and maintenance of stream adjacent road prisms. The Action Alternative would construct approximately 0.2 miles of new permanent road and 0.5 miles of temporary road. All temporary road construction would be reclaimed following completion of the project. ~~No new road construction would occur within the SMZ. Timber hauling would occur along approximately 0.7 miles of road within 50 feet of Greyson Creek and is expected to result in low direct and indirect impacts to sediment delivery to Greyson Creek. Implementation of BMPs and mitigations may result in some reduction of direct sediment delivery. Implementation of the Action Alternative is not expected to elevate cumulative impacts of sediment delivery beyond the moderate existing impact.~~ Timber hauling would occur along approximately 8.2 miles of forest road within 300 feet of perennial streams in the project area. Implementation of BMPs and associated water quality mitigations may result in some reduction of direct sediment delivery. Given the proportion of the haul route within 300 feet of perennial streams in the project area, there is an additional moderate risk of moderate to high impacts of sediment delivery on fisheries habitat. Based on the existing sediment conditions, including the amount of stream adjacent forest road, continued livestock grazing, and streambank trampling, existing cumulative effects of sediment are likely to remain high, even when considering

potential sediment reductions through application of appropriate BMPs and project related mitigations in the Water Quality and Quantity analysis.

2. The Action Alternative would maintain adequate equipment restriction zones and low soil disturbance harvest systems adjacent to drainage feature. All timber harvest BMPs would be effectively implemented. Areas of upland soil disturbance have a low potential for erosion and sediment delivery which would be monitored and mitigated promptly as discussed in the Water Quality and Soils analysis. Locations of new road construction are on dry sites and no new stream crossings are proposed. Because of these factors there is a low moderate risk of direct, secondary and cumulative impacts to fisheries resources by implementing the action alternative.
3. The primary impact to large woody debris, stream shade, and subsequently stream temperature is the loss of the majority of riparian vegetation due to stream adjacent roads and livestock use. Based on the proposed action, no management of riparian timber stands along Class 1 waters are proposed, as such the existing impacts to riparian vegetation are likely to continue similar to the existing condition.
4. No introduction, suppression, or removal of non-native species would be carried out under the Action Alternative. As such, no additional direct, secondary, or cumulative impacts are anticipated as a result of implementation of the Action Alternative. Existing impacts of non-native species on Westslope cutthroat trout including, competition, displacement, and hybridization by and with non-native species would continue similar to the existing condition.

Fisheries Mitigations:

- Install sediment control BMPs along stream adjacent road segments to minimize potential direct delivery from road surfaces during timber hauling
- Best Management Practices for Forestry would be implemented and monitored for effectiveness concurrent with all forest management activities.
- Implementation of Montana Administrative Rules for Forest Management and Streamside Management Zones.

WILDLIFE:

Dry, sparsely forested foothill habitats comprise the majority of the project area. Topography and aspect in this area are variable and forested patches in the project area are dominated by Douglas-fir. These patches are naturally fragmented due to past disturbances including logging and wildfires. The stands are composed of single story mature and multi-story Douglas-fir. Douglas-fir has been stagnated in the harvest area due to western spruce budworm and drought conditions. A large area in the vicinity of the project area burned severely in year 2000, which dramatically reduced conifer cover.

The project area is primarily surrounded by private lands, and a sizable acreage of lands managed by the U.S. Forest Service lie within one mile of the project area. Extensive logging and road construction and use has occurred on both private and federal lands during the last several decades, and a high voltage powerline bisects the south half of the project area. Existing roads are closed to motorized public access (approximately 2.9 miles),-however, the parcel is accessible to the public for non-motorized use and it is grazed by livestock.

Upland forest and grassland habitats provide habitat for elk, moose, mule deer and white-tailed deer, particularly during the months that span May through November. Grasslands also provide habitat for upland game birds and passerine ground-nesting species, whereas forested patches provide habitat for forest dwelling birds and mammals including those that use downed logs and snags to meet life requisites. Several species likely present on the project area were raised as concerns by members of the public, which included spotted frog, western toad, western garter snake, beaver, dusky grouse, and great gray owls.

Following harvest, species that prefer more open forest conditions and/or young forest conditions would benefit, whereas those preferring more dense and structurally diverse forest conditions would not benefit. Under the proposed action, some habitat patches could become more fragmented, which would cause little added impact given the conditions already present in this naturally fragmented landscape. Lands within the project area are not within any documented known area of importance for wildlife habitat linkage. Due to the size, habitat conditions, location and relatively short duration of the majority of the predominant disturbance associated with the project (approximately 1 to 2 years), direct, indirect, and cumulative effects to affected wildlife resources in this area are expected to be minor. See more detailed assessments in the table and “Comments” section below.

Cumulative effects for this analysis were considered in association with the project area and eight surrounding sections totaling 5,760 acres.

No-Action: Under the No Action Alternative, none of the proposed road construction or timber sale activities would occur. Thus, no soil disturbance or manipulation of forest vegetation and habitats would occur for any species of wildlife. No direct, indirect or cumulative effects to wildlife or habitat would be expected under this alternative.

Action Alternative (see Wildlife table below):

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Threatened and Endangered Species														
Grizzly bear (Ursus arctos) Habitat: Recovery areas, security from human activity		x				x				x			Yes	WL-1
Canada lynx (Felix lynx) Habitat: Subalpine fir habitat types, dense sapling, old forest, deep snow zone	x				x				x				N/A	WL-2
Sensitive Species														
Wolverine	x				x				x				N/A	WL-2

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Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
(Gulo gulo) Habitat: High elevation areas that retain heavy snow levels in late spring														
Bald eagle (Haliaeetus leucocephalus) Habitat: Late-successional forest within 1 mile of open water	x				x				x				N/A	WL-2
Black-backed woodpecker (Picoides arcticus) Habitat: Mature to old burned or beetle-infested forest	x				x				x				N/A	WL-2
Black-tailed prairie dog (Cynomys ludoviscianus) Habitat: grasslands, short-grass prairie, sagebrush semi-desert	x				x				x				N/A	WL-2
Flammulated owl (Otus flammeolus) Habitat: Late-successional ponderosa pine and Douglas-fir forest		x				x				x			Yes	WL-3
Harlequin duck (Histrionicus histrionicus) Habitat: White-water streams, boulder and cobble substrates	x				x				x				N/A	WL-2
Northern bog lemming (Synaptomys borealis) Habitat: Sphagnum meadows, bogs, fens with thick moss mats	x				x				x				N/A	WL-2

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Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Mountain plover <i>(Charadrius montanus)</i> Habitat: short-grass prairie & prairie dog towns	x				x				x				N/A	WL-2
Peregrine falcon <i>(Falco peregrinus)</i> Habitat: Cliff features near open foraging areas and/or wetlands	x				x				x				N/A	WL-2
Pileated woodpecker <i>(Dryocopus pileatus)</i> Habitat: Late-successional ponderosa pine and larch-fir forest		x				x				x			Yes	WL-4
Greater Sage grouse <i>(Centrocercus urophasianus)</i> Habitat: sagebrush semi-desert	x				x				x				N/A	WL-2
Townsend's big-eared bat <i>(Plecotus townsendii)</i> Habitat: Caves, caverns, old mines	x				x				x				N/A	WL-2
Big Game Species														
Elk		x				x				x			Yes	WL-5
Whitetail		x				x				x			Yes	WL-5
Mule Deer		x				x				x			Yes	WL-5
Great Gray Owl		x				x				x			Yes	WL-6
Other Species Raised as Concerns		x				x				x			Yes	WL-7

Comments:

WL- 1 Grizzly Bear – The proposed project area lies outside of any grizzly bear recovery area and defined Non-Recovery Occupied Habitat (Wittinger 2002). Habitat for grizzly bears is generally of low quality in the project area, and no recent bear observations have been reported in the local area. However, riparian areas associated with Greyson Creek provide some green foraging areas potentially usable by bears. In 2017 an individual 3-year old grizzly bear was

observed in the Big Belt Mountain Range less than 20 miles north of the project area. Thus, grizzly bears could potentially use the project area at some point. Approximately 2.9 miles of existing low-standard road (closed to public) currently exist the project area. Approximately 0.7 miles of new, permanent restricted road and 0.5 miles of temporary road would be constructed to access the harvest units. Substantial amounts of cover would be removed on 153 acres reducing security cover from existing levels for two to three decades until affected conifer stands could regenerate. Public motorized access would remain restricted on all road following project completion; however, non-motorized access would continue. Mechanized activities that would occur during harvest operations and weed control activities could displace bears, should they be present in the area. Given the low potential for grizzly bear occurrence, limited habitat quality, short duration of proposed activities, and relatively small area of potential habitat affected, minor adverse direct, indirect and cumulative impacts to grizzly bears as a result of this project would be expected.

WL- 2 Various Applicable Species -- This project area is either out of the range of the normal distribution for these species, suitable habitat is not present, or minimal potential for adverse effects would be anticipated. Thus, no direct, secondary, or cumulative effects would be anticipated.

WL- 3 Flammulated Owl – Flammulated owls have been observed in the Big Belt Mountain Range and suitable habitats are potentially present in the project area. Mature tree canopy density would be appreciably reduced on approximately 135 acres of existing flammulated owl habitat, which would reduce habitat quality for 20 to 30 years, until patchy regeneration could re-establish. Flammulated owls are known to use open forest conditions, thus, some degree of habitat suitability is expected to remain following logging. Mechanized activities that would occur during harvest operations and weed control activities could also displace flammulated owls for the duration of the activity, should they be present in the area. Given the relatively small area of potential habitat affected and short project duration, minor adverse direct, indirect and cumulative impacts to flammulated owls as a result of this project would be expected.

WL- 4 Pileated Woodpecker – Pileated woodpeckers have been observed in the Big Belt Mountain Range and suitable habitats are potentially present in the project area. However, the project area is situated on the eastern edge of the distribution of this species, likely a reflection of the more marginal habitat conditions there. Under the proposed action mature tree canopy density would be appreciably reduced on approximately 135 acres effectively removing suitable pileated woodpecker habitat for 80 to 100 years in the treated stands, until mature Douglas-fir trees could re-establish. Some potential feeding use could occur in large leave trees for years following logging. Mechanized activities that would occur during harvest operations and weed control activities could also displace pileated woodpeckers, should they be present in the area. Given the relatively marginal habitat affected, small area of potential habitat affected and short project duration, minor adverse direct, indirect and cumulative impacts to pileated woodpeckers as a result of this project would be expected.

WL-5 Big Game – Elk, moose, mule deer and white-tailed deer commonly use the project area. Under the proposed action, approximately 135 acres of mature forest would have tree density

and associated crown cover considerably reduced by logging (up to approximately 90% reduction) and 18 acres of saplings would be pre-commercially thinned, which could influence local use of the area by big game for 4 to 5 decades. Other sub-merchantable patches of trees and small patches of mature trees would be retained in areas outside of harvest units. Approximately 0.2 miles of new, permanent restricted road and 0.5 miles of temporary road would be constructed to access the harvest units and facilitate control of weeds following logging. Following completion of the proposed activities the 0.2 miles of new road would also be closed to motorized public use to mitigate the loss of security for moose, deer and elk. The 0.5 miles of temporary road would be reclaimed following use for project activities and would be unusable to motorized vehicles. Access into much of the project area is controlled through private access and is not easily accessible by the general public. During periods of active logging, elk, moose and deer could be temporarily displaced by the disturbance if they happen to be in the local area. Thus, some short-term risk associated with disturbance, and some long-term, albeit minor risk, to elk, moose, and deer could occur given the reduction in cover and the 0.2 mile of additional permanent usable road prism on the landscape. Given the location, small size of the affected area, type of the proposed activity, and cover attributes found on the project area and surrounding lands, low adverse direct, indirect and cumulative effects to deer and elk associated with cover removal on these habitats would be anticipated. Proposed activities would reduce cover and security that would be cumulative to that caused by large wildfires and logging on nearby private and federal lands.

WL-6 Great Gray Owl-- Great gray owls have been observed in the vicinity of the project area (MNHP 2021) and desirable habitat characteristics such as, mature conifer intermixed with upland meadows and riparian areas occur in limited amounts in the project area. However, potential nesting habitat is present in the project area. Under the proposed action mature tree canopy density would be appreciably reduced on approximately 135 acres effectively removing potential nesting habitat for great gray owls for 80 to 100 years in the treated stands, until mature Douglas-fir trees could re-establish. This could result in the possible displacement of one pair of owls, should they be actively using the project area. Some potential foraging use could occur following logging. Mechanized activities that would occur during harvest operations and weed control activities could also displace great gray owls, should they be present in the area. Given the relatively small area of potential habitat affected and short project duration, low adverse direct, indirect and cumulative impacts to great gray owls as a result of this project would be expected.

WL-7 Concerns were raised regarding several additional species during project scoping. These included spotted frog, western toad, western garter snake, beaver, dusky grouse.

The spotted frog, western toad, western garter snake, and beaver are closely tied to aquatic and riparian habitats. Proposed logging activities would take place distant from these habitats and we would anticipate minimal potential for direct, indirect or cumulative effects from the proposed activities to these species or habitats important to them. For concerns regarding related aquatic sedimentation, please see the related discussions contained in the analyses under the Soils and Aquatic subsections of this EA.

Dusky grouse (or blue grouse) was also raised as a species of concern for this proposed project. Dusky grouse often winter at high elevations in conifer stands and in spring they often occur at lower elevations. They are a common game species that often uses forest edges and open areas. The proposed project could remove approximately 135 acres of dense mature Douglas-fir habitat and thin an additional 18 acres of saplings suitable for winter foraging and roosting. Active logging activities could also displace some individual grouse to other distant undisturbed habitats during operations. However, given the considerable prevalence and occurrence of Douglas-fir trees and stands at the landscape scale, it is questionable if that component of habitat is likely to be limiting for this species. Given the relatively small area of potential habitat affected and short project duration, low adverse direct, indirect and cumulative impacts to dusky grouse as a result of this project would be expected.

Wildlife Mitigations:

- A minimum of one snag and one snag recruitment trees per acre, of the largest diameter class, would be retained. Cull live trees and cull snags would be retained where possible given human safety considerations.
- Retain leave trees in a clumped, natural fashion to lessen tree losses to high wind and provide some limited screening structure.
- Retain 5 to 10 tons per acre of coarse woody debris greater than 3 inches in diameter.
- Intensive motorized activities associated with the project would be completed within two operating seasons.
- Following project work restrict motorized public access on existing and newly constructed roads to provide security for wildlife. Reclaim all temporary roads in a manner that precludes use by all forms of motorized access.
- Consult a DNRC biologist if a threatened or endangered species is encountered to determine if additional mitigations are needed.
- Restrict commercial motorized activities from April 1 to June 15, and from October 23 to November 28 for big game security.
- Provide visual screening where available in riparian and wetland management zones.
- Food, garbage, and other attractants would be stored in a bear-resistant manner.
- If an active great gray owl nest is found, restrict all harvest activities within $\frac{1}{4}$ mile of the active nest from April 1 through August 15. Retain all trees within 100 feet of the nest tree and retain additional mature trees as possible within 100 to 200 feet of the nest. Deviations from the $\frac{1}{4}$ mile activity restriction may occur if a DNRC wildlife biologist deems that sufficient cover and/or topography are present in amounts sufficient to provide ample screening of the nest. Harvest activities include chainsaw operation and timber felling, skidding and ground-based yarding, road construction and maintenance, log loading, log processing, and log hauling. Development of additional site-specific measures may be necessary if a nest is located $<1/4$ mile from haul routes. Should such a situation arise, a DNRC wildlife biologist would develop a site-specific plan to minimize the exposure, frequency, and duration to disturbance associated with hauling, while considering site-specific cover conditions, terrain, the sensitivity phase of the nesting season, and stage of fledgling development.

AIR QUALITY:

Air Quality	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Smoke	x				x				x					
Dust	x				x				x					
Action														
Smoke		x				x				x			Yes	1
Dust		x				x				x			Yes	2

Comments:

- 1) Slash consisting of tree limbs and tops and other vegetative debris would be piled throughout the project area during harvesting. Slash would ultimately be burned after harvesting operations have been completed. Burning would introduce particulate matter into the local airshed, temporarily affecting local air quality. Over 70% of emissions emitted from prescribed burning is less than 2.5 microns (National Ambient Air Quality PM 2.5). High, short-term levels of PM 2.5 may be hazardous. Within the typical column of biomass burning, the chemical toxics are: Formaldehyde, Acrolein, Acetaldehyde, 1,4 Butadiene, and Polycyclic Organic Matter.
- 2) Harvesting and hauling logs could create dust, which may affect local air quality. However, because dust would be localized to skid trails and haul roads and operating seasons would be short in duration, effects to air quality as a result of dust generated during harvest activities are expected to be low.

Air Quality Mitigations: Burning within the project area would be short in duration and would be conducted when conditions favor good to excellent ventilation and smoke dispersion as determined by the Montana Department of Environmental Quality and the Montana/Idaho Airshed Group. DNRC, as a member of the Montana/Idaho Airshed Group, would burn only on approved days.

ARCHAEOLOGICAL SITES / AESTHETICS / DEMANDS ON ENVIRONMENTAL RESOURCES:

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Historical or Archaeological Sites	x				x				x					
Aesthetics	x				x				x					
Demands on Environmental Resources of Land, Water, or Energy	x				x				x					

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
<i>Action</i>														
Historical or Archaeological Sites	x				x				x					
Aesthetics	x				x				x					
Demands on Environmental Resources of Land, Water, or Energy	x				x				x					

Comments:

1. Montana Tribal Nations were scoped but none identified a specific cultural resource concern. A Class I III cultural and paleontological resources inventory was conducted of the area of potential effect on state land. Despite a detailed examination, no cultural or fossil resources were identified, and no additional archaeological or paleontological investigative work is recommended. The proposed project will have *No Effect* to *Antiquities* as defined under the Montana State Antiquities Act. A formal report of findings has been prepared and is on file with the DNRC and the Montana State Historic Preservation Officer. However, if previously unknown cultural or paleontological materials are identified during project related activities, all work will cease until a professional assessment of such resources can be made.

Mitigations: If an unanticipated cultural resource is discovered, all project related activities would cease until the resource can be adequately evaluated.

OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA: *List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.*

Impacts on the Human Population

Evaluation of the impacts on the proposed action including **direct, secondary, and cumulative** impacts on the Human Population.

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Health and Human Safety	x				x				x					
Industrial, Commercial and Agricultural Activities and Production	x				x				x					

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Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Quantity and Distribution of Employment	x				X				X					
Local Tax Base and Tax Revenues	x				X				X					
Demand for Government Services	x				X				X					
Access To and Quality of Recreational and Wilderness Activities	x				X				X					
Density and Distribution of population and housing	x				X				X					
Social Structures and Mores	X				X				X					
Cultural Uniqueness and Diversity	X				X				X					
Action														
Health and Human Safety	X				X				X					
Industrial, Commercial and Agricultural Activities and Production	X				X				X					
Quantity and Distribution of Employment	X				X				X					
Local Tax Base and Tax Revenues	X				X				X					
Demand for Government Services	X				X				X					
Access To and Quality of Recreational and Wilderness Activities		x			X					x			yes	1
Density and Distribution of population and housing	X				X				X					
Social Structures and Mores	X				X				X					
Cultural Uniqueness and Diversity	X				X				X					

Comments: Short term interruption of recreational activities are to be expected due to active logging activities for up to a period of 3 years.

Mitigations:

- Limiting timing to 2 operational seasons over a 3-year contract window will reduce the amount of time there will be active harvest operations occurring.

Locally Adopted Environmental Plans and Goals: *List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.*

- Grazing Lease
- Outfitting License

Other Appropriate Social and Economic Circumstances:

Costs, revenues and estimates of return are estimates intended for relative comparison of alternatives. They are not intended to be used as absolute estimates of return. The estimated stumpage is based on comparable sales analysis. This method compares recent sales to find a market value for stumpage. These sales have similar species, quality, average diameter, product mix, terrain, date of sale, distance from mills, road building and logging systems, terms of sale, or anything that could affect a buyer's willingness to pay.

No Action: The No Action alternative would not generate any return to the trust at this time.

Action: The timber harvest would generate additional revenue for the Common School Trust. The estimated return to the trust for the proposed harvest is ~~\$113,196~~ \$56,787 based on an estimated harvest of 828 thousand board feet (~~5796~~ 7,008 tons) and an overall stumpage value of ~~\$19.53~~ \$8.06 per ton. An additional ~~\$7,592~~ \$7,569 is estimated to be generated in Forest Improvement Fees. Costs, revenues, and estimates of return are estimates intended for relative comparison of alternatives, they are not intended to be used as absolute estimates of return.

References

DNRC 1996. State forest land management plan: final environmental impact statement (and appendixes). Montana Department of Natural Resources and Conservation, Forest Management Bureau, Missoula, Montana.

DNRC. 2010. Montana Department of Natural Resources and Conservation Forested State Trust Lands Habitat Conservation Plan: Final EIS, Volume II, Forest Management Bureau, Missoula, Montana.

Does the proposed action involve potential risks or adverse effects that are uncertain but extremely harmful if they were to occur?

No

Does the proposed action have impacts that are individually minor, but cumulatively significant or potentially significant?

No

Environmental Assessment Checklist Prepared By:

Name: Devin Healy
Title: Helena Unit Forester
Date: March 15, 2021

Finding

Alternative Selection

Amended Action Alternative: DNRC would harvest approximately 828 thousand board feet (MBF) of primarily Douglas-fir trees utilizing seed tree harvest systems. Forest fire fuels would be reduced substantially within the harvest units, providing contiguous fuel breaks on the portions of state land being treated.

Approximately 5.26 miles of roads would be maintained along the amended Sulphur Bar road haul route (See Attachment A-2). Maintenance activities would occur on private property as well as state trust land. Maintenance activities, such as surface blading, drainage installation and other routine maintenance to road surface, would ensure Montana BMPs for forestry are applied effectively. Specifically, road maintenance work is required along several short stretches of the haul road on State land in very close proximity to Greyson Creek to ensure logging activities do not result in sediment delivery into Greyson Creek.

Up to 0.7 miles of new roads would be constructed. Of which, 0.5 miles would be temporary and reclaimed upon project completion and 0.2 miles would remain permanent but closed to public motorized use.

Noxious weeds would be managed by the DNRC for a period of three years concurrent with logging activities. Pile burning will occur to remove slash after harvest operations are complete. Prescribed burning may take place to help with site preparation for regeneration. Grazing under

existing lease on section 16 would continue, but DNRC would work with the lessee to limit conflict between livestock grazing and timber harvest activities. All forest improvement work and prescribed burning would be dependent on funding.

Significance of Potential Impacts

No substantial or unacceptable, detrimental impacts to water, soil, fisheries or T & E or Sensitive Species are anticipated as a result of the proposed action.

The proposed timber sale complies with the following:

- The State Forest Land Management Plan (DNRC)
- Administrative Rules for Forest Management
- All other applicable state and federal laws

This compliance combined with the utilization of standard BMP's, compliance with the SMZ Law, and the specific mitigations outlined in this document provide assuring protections against potential impact.

Need for Further Environmental Analysis

☐

EIS

☐

More Detailed EA

☒

No Further Analysis

FINAL Environmental Assessment Checklist Approved By:

Name: Heidi Crum

Title: Helena Unit Manager

Date: 3/17/22

Signature: *Heidi Crum*

Attachment A - Maps

A-1: Timber Sale Harvest Units



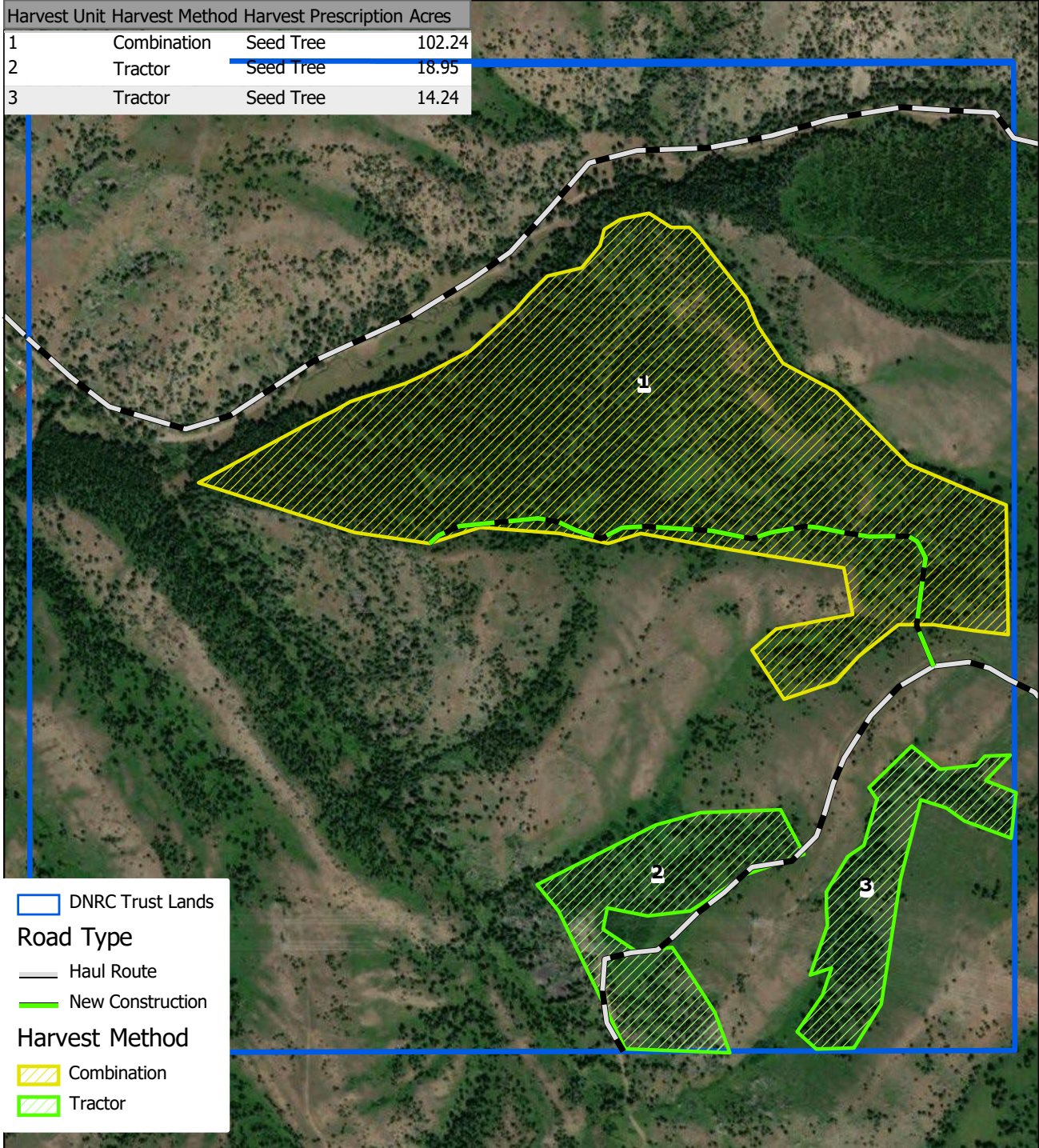
Greyson Creek II Timber Sale
Helena Unit

Sale Map
16 T6N R4E

Attachment A-1



Harvest Unit	Harvest Method	Harvest Prescription	Acres
1	Combination	Seed Tree	102.24
2	Tractor	Seed Tree	18.95
3	Tractor	Seed Tree	14.24



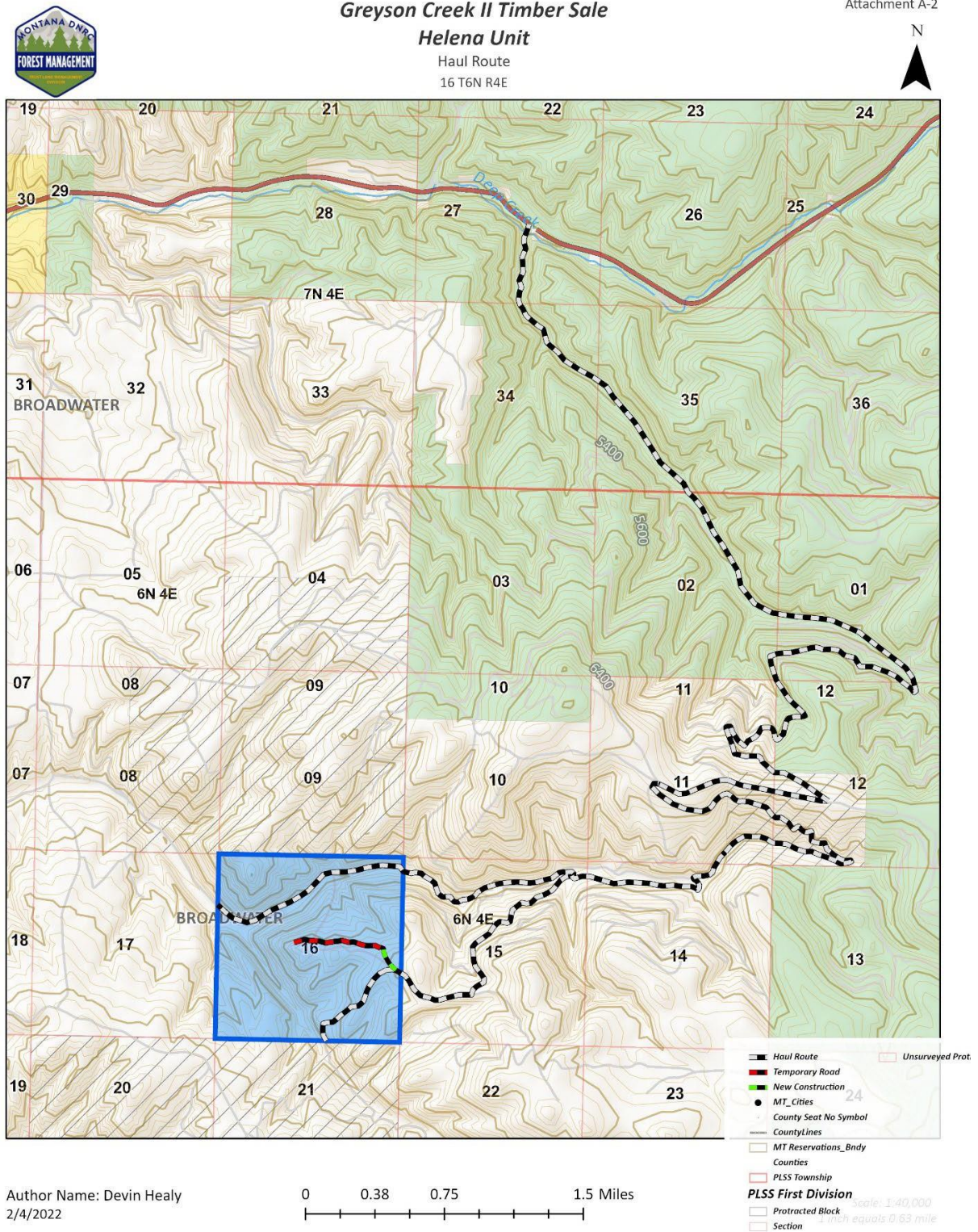
Author Name: Devin Healy
3/2/2021

0 0.07 0.15 0.3 Miles

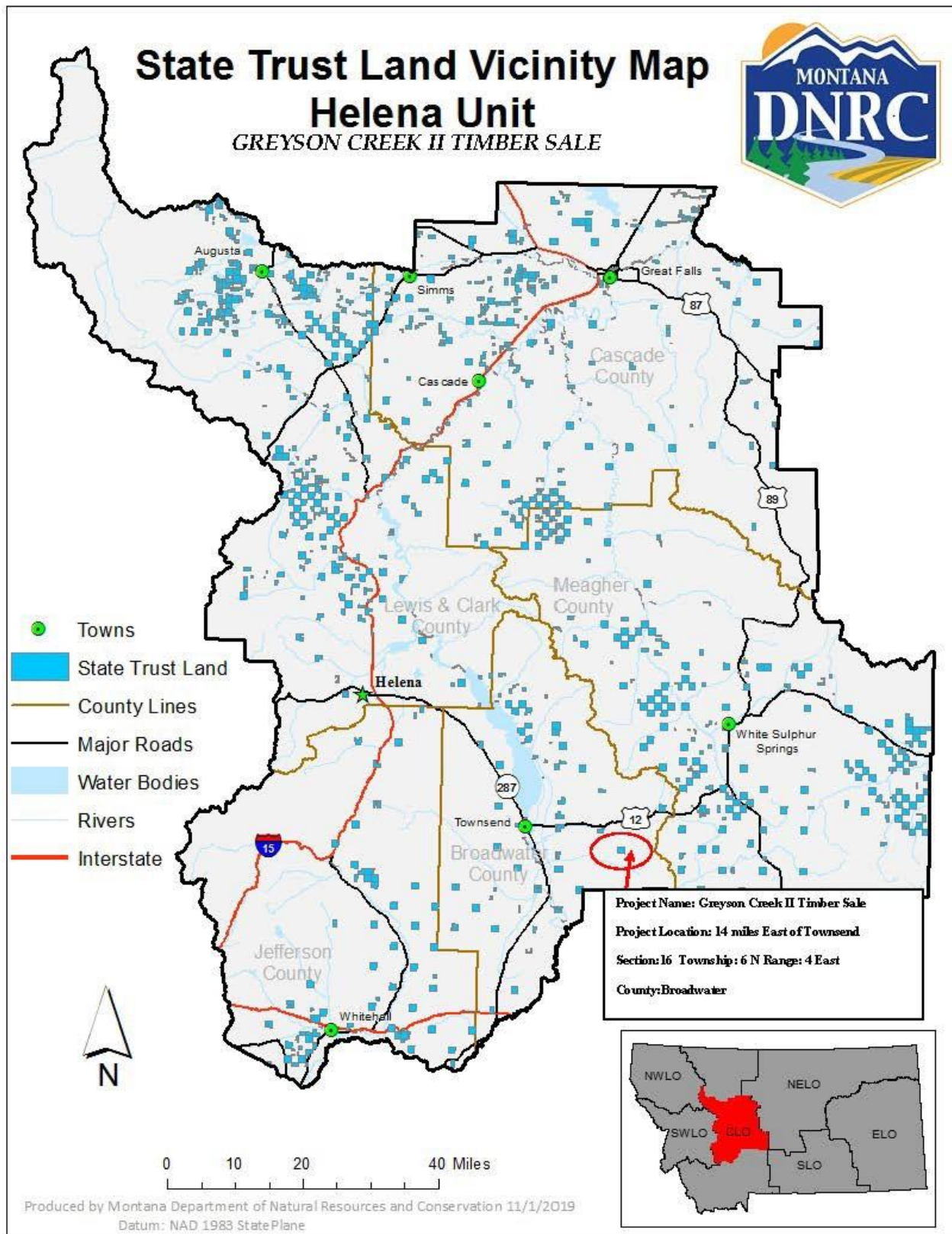
Scale: 1:12,000
1 inch equals 0.19 mile

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A-2: Timber Haul Route (amended route)



A-3: Vicinity Map



Attachment B - Additional Public Comment Post-Scoping

INTRODUCTION

This section contains information on interactions with and additional comments related to the Greyson Creek II Timber Sale from the near-by property owner, who initially commented during the scoping period. The communications described in this section occurred after the completion of the initial scoping period on December 23, 2020.

Members of the DNRC met with the commenter on April 12th, 2021, on the project area of the proposed Greyson Creek II Timber Sale. On June 8th, 2021, the commentor sent an email to the project leader inquiring about the status of the EA for the Greyson Creek II Timber Sale. On July 22nd, 2021, the commenter sent an additional email to the project leader to follow up on his previous email sent on June 8th, 2021. The comments received in both emails are presented below, as well as the DNRC's responses. The specific comment is presented in **bold** font and the DNRC's response to address this comment is presented in *italic* and underlined font below it. Portions of the comment letter that are either an opinion or recommendation and do not require a response from DNRC are not portrayed in bold font.

Comment and response to public comment email received June 8th, 2021

Devin,

Just checking in to see when your draft EA for the Greyson Creek timber sale will be available for review. I have talked to most of the neighbors on Ross Gulch Road and they seem very concerned. **John Dennison says the the 1990s Greyson Creek timber sale was all lodgepole pine. He said at that time the state asked for permission to use his road and he gave permission, but he is not likely to give permission this time. The switchback route out of Greyson Creek is also private and that land owner is not likely to give permission. You might consider going up Greyson Creek to Sulfur Bar as an exit for the logs.**

DNRC Response: The DNRC has decided to amend the action alternative to use the Sulphur Bar road as the new haul route. Please see the proposed amended action alternative and haul route map in Attachment A.

I walked through sale unit #1 and saw your riparian set aside flagging. To me, the stand does not appear to be even age. There are scattered large trees (15-18 inch dbh,) a lot of trees in the 10-12 inch range and quite a few around 6-8 inch dbh. I am guessing most of the trees are older than 80 years and that their establishment came during 3 different periods of favorable germination and establishment.

That looked like the grandfather of all the trees that blew down on the east boundary of the state land. Maybe 250+ years?

Craig

Comment and response to public comment email received July 22nd, 2021

Devin,

During our 12 April on site meeting for the Greyson Creek 2 timber sale, you clearly stated that you would send me a copy of the draft EA when available in June. On 8 June, I sent you an email (attached below) asking about the EA status. You failed to respond to this email. Moreover, none of the residents in this area received any notification that a draft EA was available for comment. Based on the EA posted on your web site it was signed as a final document on 24 April. I am totally confused and I think we have a problem here with your agency not being open and forthcoming with this timber sale.

I have read through your document and it totally ignores the issue of public safety on Ross Gulch Road which I addressed in my scoping comments. In fact, under the Impacts on the Human Population chart "no impact" is checked on the box for the Health and Human Safety. The EA does not address how many trucks will be going in and out through the Ross Gulch canyon to remove 828,000 board feet of timber. That was one of my questions to you during our site visit that you amazingly did not have an answer for at that time. The 5 miles of Ross Gulch Road is probably one of the most dangerous public roads in Montana and you did not even mention this in your analysis. There have been many, many accidents on this road and you never even talked to the residents who use the road to find out how many accidents and other incidents, like touching mirrors and being run off the road by trucks pulling stock trailers, have occurred in the past 2 decades. Sections of the Ross Gulch Road in the canyon are single lane with blind curves and are not suitable for 2-way traffic with logging trucks. There are now 18 families that use Ross Gulch Road making multiple trips daily. This is not like the 1990s when there was only a single family living in section 17. This is a huge issue that was totally ignored in the EA.

DNRC Response: The DNRC has decided to amend the action alternative to use the Sulphur Bar as the new haul route. Please see the proposed amended action alternative and haul route map in Attachment A.

In response to my scoping comment that the Upper Greyson Creek Road was privately owned, your EA states that the county plows snow on Upper Greyson Creek Road, implying that it is a county road. This is absolutely false. Not in the 2 decades that we have lived here has Broadwater County ever plowed snow on Upper Greyson Creek Road in the winter or graded the road in the summer. You clearly did not visit the county shop building in Townsend and look at their map of county roads as I instructed you to do. The EA fails to establish if the State even has an easement on this road. Note that my 8 June email shows that John Dennison granted permission for trucks to use his private road for the 1990s logging effort. The fact that the State asked for permission is suggestive that there is no easement.

DNRC Response: The DNRC has decided to amend the action alternative to use the Sulphur Bar road as the new haul route. Please see the proposed amended action alternative and haul route map in Attachment A.

Much of your analysis in the EA is so superficial as to be meaningless. For cumulative impacts, you failed to determine what percent of the upper Greyson Creek drainage (east of Ross Gulch Road) has been burned, logged and roaded. Miles of road per section is a good inverse metric of elk habitat quality during the hunting season. There was no quantitative analysis for road density in this area. Road density, amount of land burned in the 2000 fire, and acreage of previous logging in Greyson Creek was one of my scoping concerns and also on the site visit. You just blew all this off in your cumulative effects analysis with a conclusion there is none without presenting any data or analysis. I have viewed the 8 surrounding sections that you used for your cumulative effects analysis on Google Maps and it is very clear that the forested habitats proposed for logging on the state section are the last intact forested areas left within your analysis area.

DNRC Response: The effects of the 2000 fire are out of the scope of this analysis as well as logging and road construction on adjacent non-State Trust Lands. Additionally, when managing forest conditions on scattered State lands, it is not necessary for the DNRC to compensate for conditions made rare on adjacent ownerships due to management activities of others, unless it coincides with other department objectives (ARM 36.11.416(2)). Currently, no department objectives exist that make it necessary for the DNRC to maintain current forested conditions on the state section relative to conditions on adjacent non-State lands. New permanent road construction for the Greyson Creek II project would be limited to 2/10ths of a mile and temporary road construction that would be reclaimed following project completion is limited to 5/10ths of a mile. The Amended Proposed Action that utilizes the Sulphur Bar haul route increases road maintenance from approximately 5 miles to 26 miles. Please see the proposed action, Soils, and Vegetation sections in the analysis.

There are many other issues with the EA. Examples include: the numbered responses to the scoping comments are out of sync with the numbered comments, misspelling of Greyson Creek throughout the document, **failure to even mention moose as a big game animal using the area (the south fork of Greyson Creek is extensively used by moose during winter), and repeatedly stating that all existing roads in the state section are closed to motorized use.**

DNRC Response: Please see the wildlife section for the analysis conducted for this specific project.

In the analysis of motorized use, the Interdisciplinary Team is using the Administrative Rule "36.25.149" to conduct the analysis which reads:

36.25.149 GENERAL RECREATIONAL USE OF STATE LANDS: RESTRICTIONS (1) The following restrictions apply to persons engaging in general recreational use of state lands except for general recreational use subject to block management restrictions pursuant to ARM 36.25.163: (a)(i) Except as provided in (ii) and (iii), motorized vehicle use on state lands by recreationists is restricted to federal roads, state roads, dedicated county roads, other county

roads that are regularly maintained by the county and those roads on state lands that are designated by the department as open for motor vehicle.

As there are no federal, state, or dedicated county roads on this section of trust lands motorized vehicle use is restricted (closed to recreational use). The FWP provides law enforcement on state lands if you would like to report a violation, please call 1-800-TIP-MONT.

Overall, this document does a poor job describing the existing environment and addressing the impacts of the proposed logging operation to people and wildlife.

Craig

Attachment C – Draft Amended EA Public Comment and Response

INTRODUCTION

This section contains public comments related to the draft Amended EA for the Greyson Creek II Timber Sale. Comments were received from two individuals, one of which, a near-by property owner, previously commented on the project during and following the project scoping period. The communications in this section occurred during the public comment period of the draft amended EA from February 8th to 22nd, 2022.

The comments received during the 14-day comment period are presented below, as well as the DNRC's responses. The specific comment is presented in **bold** font and the DNRC's response to this comment is presented in underlined, italic font below it. Portions of the comments that are either an opinion or recommendation and do not require a response from DNRC are not portrayed in bold font.

Public comment email and associated photos received February 15th, 2022

Devin,

The photo of the Douglas fir stump is a tree close to our house. It was killed in the 2000 fire and for the first few years after the fire it was used by a pileated woodpecker as a drumming tree. The tree was approximately 100 years old when it died. It is difficult to see where drought or spruce bud worms stunted the growth of this tree. Really, after the tree was established (first 20 years) the growth was remarkably good, but slowed some in the 1990s.

DNRC Response: The tree certainly grew at a fairly consistent rate until 1970, but inferences about factors affecting stand growth/dynamics made from an individual tree rather than the stand as a whole can be misleading. Many factors influence stand growth including insect and disease, weather event, climate, soil development, water availability, aspect, and microsite.

The middle photo is of old growth trees (based on Whitford's definition) and are in the range of 150 years old They will continue to grow for a couple hundred years more.

Grassy Mountain on the east side had extensive old growth (200 to 300 year old trees) Douglas Firs, but the Forest Service cut just about all of them in the 1970s. There are still a few 3-foot +diameter trees remaining. The biggest tree in the area is on our neighbor's land and might be 4-feet in diameter.

DNRC Response: As specified in ARM 36.11.403(54), DNRC uses the minimum criteria for number, diameter, and age of large trees and stand basal area specified by Green et al. (1992) to identify old growth stands on State lands. The stands in the project area do not meet the minimum criteria for those items specified by Green et al. (1992) for DNRC to classify the stands in the project area as old growth. The prescribed treatment would retain enough trees that the stand could be classified as old growth at a point in the future when those trees become large/old enough and when the stand achieves sufficient basal area to meet DNRC's definition from Green et al. (1992).

The third photo shows a thinned stand with 60 to 80 year old trees. Possibly you could be doing something like this on the State section. Douglas fir develops fire resistant bark around age 40 and stands like that in the attached photos are relatively fire resistant.

DNRC Response: The stands in the project area are largely single-storied and one of the objectives for silvicultural treatments in these stands is to establish regeneration of Douglas-fir. Commercial thinning is not likely to achieve that objective, and since the trees average 120-130 years old they are unlikely to respond with a significant increase in growth rate if such a treatment were applied. The prescribed seed tree harvest would create conditions to encourage natural regeneration of Douglas-fir and would also emulate the predominant fire regime affecting these stands, which is consistent with DNRC's rule for selecting silvicultural systems/prescriptions (ARM 36.11.408). Two post-fire mortality monitoring studies conducted by DNRC between 2000-2009 (Sula) and 2008-2017 (Jocko Lakes) showed that Douglas-fir has low resistance to fire and a high probability of mortality following fire regardless of tree size or the type and degree of damage sustained during the fire.

Please include this email as part of my comments on your draft EA.

Craig

Photo 1

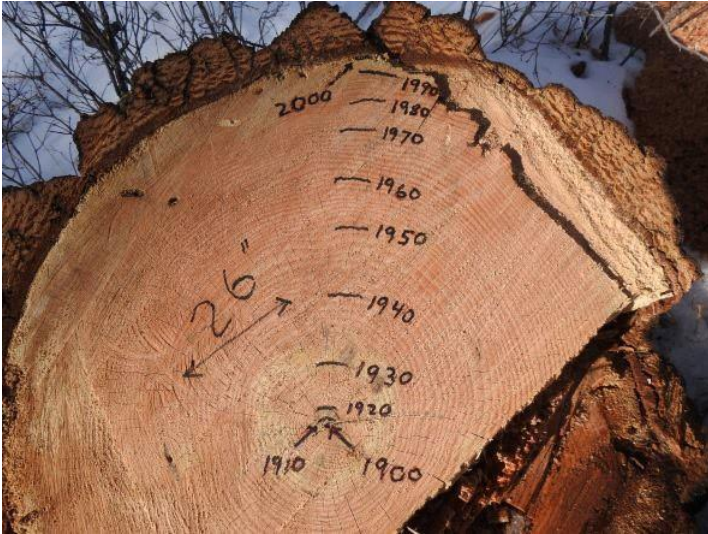


Photo 2



Photo 3



Comment and response to public comment email received February 21st, 2022

Greyson Creek Timber Sale 2 comments:

Calling state section 16 semi-arid is really not accurate. I think “montane” is a better description. I have recorded 30 inches of precipitation in some years and in most years this area gets 20 inches of precipitation.

DNRC Response: The average annual precipitation when weighted by elevation for the Greyson Creek watershed is 18 inches. The highest elevations may receive upwards for 30 inches of precipitation in wet years but the majority of the watershed is low elevation and receives significantly less than 18 inches. As a result, using the Köppen climate classification system, this watershed would classify as a cold, semi-arid climate.

No data are presented to back up the statement that the Douglas fir trees in these 3 stands are stunted by spruce bud worm and drought. Examining tree ring growth on 100-year old Douglas fir trees killed by the 2000 fire shows that they had consistently good growth through the 20th century once the trees got past the establishment phase. Wind pruning during high wind events during winter may actually remove more photosynthetic material than spruce bud worms.

DNRC Response: Increment core samples taken from trees in the project area showed that most of the mature overstory trees were in the 120–130-year age range, and also showed decreasing growth rates in recent decades.

Under the discussion of noxious weeds, musk thistle was not mentioned. It occurs on the state section, and is slowly increasing in distribution and abundance in this area. The cumulative and direct impacts of logging in relationship to noxious weeds will be moderate to high not low. Three years of herbicide treatment will not stop the spread of noxious weeds because it takes much longer for native vegetation to recover from logging disturbances, and any control effort is less than 100% effective.

DNRC Response: Musk Thistle is not listed as a noxious weed in the state of Montana and therefore not included in the discussion of Noxious weeds. See <https://fieldguide.mt.gov/displayInv.aspx?id=NOX> for a state list of weeds. Upon review, Musk Thistle is listed as a noxious weed by Broadwater County. An addition to include musk thistle will be made to the analysis. The tract is leased for grazing. The lessee is responsible for weed management on the tract, and DNRC conducts additional weed management when there is a timber sale.

The direct and cumulative impacts on old growth Douglas fir will be high because old mature trees are not going to be saved and incorporated into the long term stand management. The Forest Service cut virtually all its old growth in this area in the 1970s.

DNRC Response: In accordance with 36.11.416, treatment design was based on the project level. Additionally, when managing forest conditions on scattered State lands, it is not necessary for the DNRC to compensate for conditions made rare on adjacent ownerships due to management activities of others, unless it coincides with other department objectives (ARM 36.11.416(2)). Stands present in the project currently do not meet DNRC old growth definitions; however, the prescribed treatment would retain enough trees that the stand could be classified

as old growth at a point in the future when those trees become large/old enough and when the stand achieves sufficient basal area to meet DNRC's definition from Green et al. (1992).

Your statement that 46% percent of Greyson Creek watershed is forested is misleading and inaccurate. The amount of land actually under a forest canopy is considerably less. You need to define what percent of canopy closure is considered forested. A few scattered trees in a burned area is not forested. There also needs to be a statement of the percent of the watershed that was burned in the 2000 fire and the amount of the watershed that has been previously logged.

DNRC Response: The watershed effects coarse filter approach that DNRC uses to disclose watershed existing conditions indicates that the Grayson Creek watershed has 5,722 acres of forest cover or 36.8% forested. This error has been corrected in the final amended EA. A statement regarding past fire and logging activities, as requested, has also been added to the final EA in the watershed analysis, page 10.

The goshawk is still not mentioned in the wildlife section as a species of concern and it is present in the area. I sent an email on this and mentioned it at the on-site scoping meeting.

DNRC Response: Northern Goshawk is not listed on DNRC sensitive species list. Northern Goshawks use and nest in a variety of forest types including Douglas-fir, western larch, lodgepole pine and ponderosa pine. They nest in mature and old forest stands and forage in a variety of structural types and conditions. Habitat alteration and disturbance associated with forest management activities can adversely affect this species, particularly during the nesting season. However, they will continue to persist in managed landscapes, and they are currently one of the most common raptor species encountered when developing DNRC timber sale projects. Regarding many aspects of their life history, in Montana they are a generalist species that will nest and utilize a number of different forest types and structures. They are a species that will readily relocate and build alternate nests if habitat is altered or if nests become occupied by other species. Goshawks also use a wide variety of prey species, most of which are typically abundant in Montana. Thus, habitat and nesting season sensitivity considerations for this species appear to closely resemble those for other hawk species in Montana. Given these factors, results from relatively recent habitat assessments on National Forest Lands and species viability assessments across the state, this species does not warrant analysis for this proposed action. (See detailed review and analysis by Brewer et al. 2009). As with other hawk species found in Montana, mitigations would be applied on a case-by-case basis for active nests and removal of nest trees would be prohibited.

The bald eagle is not a Federally listed T&E species. It was delisted in 2007. However, the bald eagle is frequently observed along Greyson Creek and adjacent areas.

DNRC Response: Bald Eagle is listed as a sensitive species in the wildlife section, page 15, and not as a T&E species. Mitigation measures for bald eagles will be developed as necessary, if warranted, during project implementation.

On page 10, the EA makes a statement that the proposed harvest is not expected to substantially decrease levels of canopy, but later in the document the EA states there will a 90% reduction in canopy cover. I think the former statement is in error.

DNRC Response: The two statements referenced above are referring to two very different spatial scales. At the watershed scale of 24 mi², forest canopy removal of 135 acres (2% of the forested area) will have no measurable effect to water yield. The second statement is referring to canopy removal within the harvest unit and reflects the anticipated canopy reduction of a seed tree silviculture prescription. The associated effects to big game within these 135 acres are disclosed on pages 17 and 18 of the wildlife analysis.

My concern about noise resulting from the project is not out of scope of the document. Mitigation is that all equipment with internal combustion engines will be required to have functional mufflers meeting industry standards for decibel reductions. You could also require that all chain saws used on the project be battery powered electric.

DNRC Response: DNRC requires as part of all timber sale contracts that operators adhere to the following requirement:

“All internal combustion engines must be equipped with an approved and effective spark-arresting system, as established in the National Wildfire Coordinating Group’s Spark Arrester Guides. Spark-arresting devices must be marked, properly installed, and maintained in accordance with the Guides. The following vehicles are exempt: a. automobiles and light trucks of less than 23,000 GVW when all exhaust gases pass through a properly installed and maintained exhaust system, baffle-type muffler, and tailpipe. Vehicles with glass-pack mufflers do not qualify for the exemption. b. heavy-duty trucks of 23,000 GVW or greater, with a muffler and vertical stack exhaust system extending above the cab. c. vehicles with other spark-arresting systems providing equal or increased effectiveness. Such vehicles must be inspected and have written authorization from the recognized fire protection agency”

This requirement is for spark arresting devices, and not muffler specific spark arrestors are contained within the muffler system. The purchaser will choose the precise type of felling equipment used. The use of electric chainsaws is out of the scope of this analysis.

Under the Social and Economic Circumstances the no action alternative shows that it would not generate income for the state. This is very inaccurate because the trees will continue to grow and increase in value. At some future time, the ratio of profit to expense of the project will be much more favorable for the state. The \$56,000 expected to be generated from this project suggests that deferral of harvest to a much later date (several decades) would be a viable option, and that thinning the stands to reduce competition would be a better strategy. Probably, on a maximum sustained income basis, it would behoove the state to more carefully manage those Douglas fir stands for long term sustainable growth – i.e. less diesel mentality and more eco- sense. Your proposed action is too much like an aging private landowner cutting all his trees just to gain a little income to hold on financially for a few more years. The state is not in this position and has continuity of ownership in perpetuity. You should be looking at the best long term strategy for the state. The majority of the trees in those stands are young and will keep growing.

DNRC Response: The no-action alternative does not generate current income for the State, and the deferral of management to a later date does not guarantee future income from forest management activities in the project area but instead increases the risk of future losses in the project area. Based on current stand conditions and project-level objectives, we believe that the proposed action alternative is both appropriate and timely and will accomplish the

State's long-term objective of sustainable forest management as a source of revenue for the trust beneficiaries. Statute directs DNRC to sell a consistent amount of timber each year (MCA 77-5-223) that is determined by DNRC's sustainable yield calculation, which provides a consistent revenue source for the trust beneficiaries and a consistent source of material for the wood products industry. The current sustainable yield is 60 million board feet in fiscal year 2022. See Impacts to Human Population, page 21.

The EA mentions that the Greyson Creek 1 timber sale showed good regeneration, but it fails to mention that it was a lodgepole pine harvest and that the same stand on private land was cut at the same time and has very little regeneration. Moreover, a review of Google Maps satellite view of the Greyson Creek drainage above the state section shows highly variable regeneration in the areas of extensive logging on private and Federal lands. Generally, it appears that areas once dominated by lodgepole pine have some regeneration, but logged Douglas fir stands have very little regeneration. Also, the statement about good regeneration is a qualitative term failing to provide any quantitative assessment of what the actual level of regeneration is. The EA should also disclose the year that Greyson Creek 1 timber sale was harvested.

Douglas fir is an entirely different species than lodgepole pine and our experience with Douglas fir on an adjacent section is that it requires special conditions for regeneration. This is also apparent in harvested Douglas fir stands in upper Greyson Creek and on the east side of Grassy Mountain. In addition to poor natural regeneration following harvest, many Douglas fir seedlings require a decade or more just to get established. If you harvest these 3 stands of Douglas fir on the state section which are really the last of the Douglas fir stands going downstream on Greyson Creek, it may take decades for the Douglas fir to regenerate because these 3 stands are at the lower end of Douglas fir distributional range in this area and as such are marginal sites.

DNRC Response: The Greyson Creek Timber Sale occurred in 1991-1994. Additionally, we agree that the period for establishment of Douglas-fir on the types of sites found in the project area can be prolonged; however, we do expect Douglas-fir to naturally regenerate following harvesting and will monitor amounts of natural regeneration by conducting regeneration surveys as required by ARM 36.11.420. Based on results of those surveys, we will plan follow-up treatments accordingly to achieve regeneration objectives.

ARM 36.11.416(2) does not exempt this EA from considering cumulative effects. Discussion of cumulative effects in an EA is required by MEPA. On page 24, the document poses the question; "does the proposed action have impacts that are individually minor, but cumulatively significant or potentially significant". The answer to that question is "YES" and not "No". The document fails to disclose in the analysis area how many acres remain of intact Douglas fir forest and the level of road development. If you view the analysis area on Google Maps satellite view, the Douglas fir stands on the state section are the only dense stands remaining. It is also apparent that the analysis area is heavily roaded. The EA fails to provide any of this information and has totally failed to address cumulative effects.

DNRC Response: Page 10 of the EA states that at least 36.8% of the 24.3 square mile watershed containing the project area is forested, which equates to approximately 5,700 forested acres. DNRC's timber inventory shows that the project area currently has 528 forested acres, which is approximately 9% of the forested acres within the watershed. Of those 528

acres, 37 are currently non-stocked, 72 are poorly stocked (0-39% crown cover), 296 are moderately stocked (40-69% crown cover), and 122 are well-stocked (at least 70% crown cover). Harvesting is proposed on 135 acres, which equates to 26% of the forested acres in the project area and 2% of the watershed. Currently, no department objectives exist that make it necessary for the DNRC to maintain current forested conditions on the state section relative to conditions on adjacent non-State lands. New permanent road construction for the Greyson Creek II project would be limited to 2/10ths of a mile and temporary road construction that would be reclaimed following project completion is limited to 5/10ths of a mile. The Amended Proposed Action that utilizes the Sulphur Bar haul route increases road maintenance from approximately 5 miles to 26 miles. Please see the proposed action, Soils, and Vegetation sections in the analysis.

Page 23 shows 828 board feet. Maybe that should be 828,000 board feet.

DNRC Response: The EA has been corrected to read 828 thousand board feet.

Public comment email received February 21st, 2022

Hello Devin,

I wish I had more time to comment on this, Devin. Please move forward with the Greyson Creek Project and maximize your timber harvesting. We do not want to see shutdowns during the hunting season. We can't just lay people off then.

Dennis

Dennis M. Davaz
RY Timber, Inc.
Resource Manager
406-220-102

DNRC Response: DNRC Scoped this project from 11/23/2020 – 12/23/2020. DNRC additionally posted a draft EA for 14 days for comment. DNRC has added Dennis Davaz to the state-wide timber sale scoping list, as requested, so he receives scoping notices in the future.